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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,944	01/03/2001	Barry L. Phillips	BASI.IP2023	3112

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EXAMINER	
SORKIN, DAVID L	

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/753,944	PHILLIPS, BARRY L.	
	Examiner	Art Unit	
	David L. Sorkin	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *49-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49 and 51-68* is/are rejected.

7)☒ Claim(s) *50* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 52 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement and as failing to comply with the enablement requirement of this paragraph. While it is unclear what is being claimed in claim 52, to the extent understood, there is no supported for the new limitation "each of the first end and the second end are downstream of a direction of the direction of travel", in combination with the new recitation "each of the first ends are upstream of a direction of travel". This new recitation of the first end being both upstream and downstream is not supported by the specification as originally filed.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 52 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by the apparently contradictory set of new recitations "each of the first end and the second end are downstream of a direction of the direction of travel" and "each of the first ends are upstream of a direction of travel".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 49, 51, 52, 54-68 are rejected under 35 U.S.C. 102(b) as being anticipated by Streiff et al. (US 5,456,533). Regarding claim 49, Streiff ('533) discloses a system comprising a duct (7) provided with an inner surface defining a passageway capable of communicating a gas stream which one may choose to flow through the passageway in a particular manner of using the system, a wing (30) having a first end (the upper end in Figs. 9a and 9b) and second end (the lower end in Figs. 9a and 9b), an upper surface, and a lower surface, wherein the wing non-movably coupled within the passageway of the duct and capable of shedding a vortex into the gas stream at an edge of the second end of the wing, the first end and second end extend into the passageway (see Figs. 9a, 9b and 10), the first end positioned upstream of a direction (for example opposite the direction "Z" in Figs. 9a and 9b) of travel of the gas stream which one may choose to flow though the passage, and the second end positioned downstream of said direction; a nozzle (21) to discharge a mixture into gas stream, the nozzle located adjacent the edge of the second end of the wing such that the nozzle discharges the mixture into the vortex at a point wherein the vortex is shed (see Figs. 9a and 9b). Regarding claim 51, the nozzle is positioned to discharge in the direction (Z) substantially opposite said direction (see Figs. 9a and 9b). Regarding claim 52, the

system comprises a plurality of wings (30) having a first end and second end, and an upper surface, wherein the wings are non-movably coupled within the passageway of the duct and capable of shedding a vortex at an edge of the second end thereof, each of the first ands and the second end of the plurality of wings extend into the passageway, each of the ends are upstream of a direction of travel of the gas stream, and each of the first end and the second end are downstream of a direction of the direction of travel of the gas stream; and a plurality of nozzles (21) to discharge a mixture into passageway, the nozzle located adjacent the edge of the second end of one of the wings such that the nozzles discharge the mixture into the vortex at a point wherein the vortex is shed (see col. 2, lines 14-23). Regarding claim 54, the wing is non-moveably coupled to the inner surface of the duct at a lift generating angle of attack such that the first end of the wing is positioned substantially upstream a direction of travel of the gas stream through the passageway and such that the second end of the wing is substantially down stream of the direction of travel of the gas stream through the passageway (see Figs. 9a and 9b). Regarding claim 55, the system further comprises a second wing (30) having a first end and second end, and upper surface and a lower surface, wherein the second wing is non-moveably coupled to the inner surface of the duct at a lift generating angle of attack such that the first end of the second wing is positioned substantially upstream a direction of travel of the gas stream through the passageway and such that the second end of the second wing is substantially down stream of the direction of travel of the gas stream through the passageway (see Fig. 9a and 9b); and a second nozzle (21) to discharge a mixture into passageway, the second

nozzle located adjacent the edge of the second end of the second wing such that the nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the second wing (see col. 2, lines 14-23). Regarding claim 56, the wing and the second wing are coupled to the inner surface of the duct such that the first ends of the wing and the second wing are located substantially along a plane perpendicular to the direction of travel of the gas stream though the passageway of the duct (see Fig. 10, col. 2, lines 14-23). Regarding claim 57, the upper and lower surfaces of the wing defines an upper and lower arcuate shapes of the wing extending from the first end to the second end of the wing wherein the upper arcuate shape is substantially similar to the lower arcuate shape of the wing (see col. 2, lines 14-18; col. 3, lines 25-26, Fig. 3d). Regarding claim 58, Streiff ('533) discloses a system comprising a duct (7) with an inner surface defining a passage; a first wing (30) having a first end and a second end and capable of shedding a vortex at an edge of the second end of the first wing, the first wing non-movably coupled with in the passageway of the duct such that the first end of the first wing extends into the passageway and is positioned along a plane within the passageway of the duct, the plane substantially perpendicular to a direction of travel of a gas stream though the passageway; a second wing (30) having a first end and a second end and capable of shedding a vortex at an edge of the second end of the second wing, the second wing non-movably coupled with in the passageway of the duct such that the first end of the second wing is positioned along the plane within the passageway of the duct, the plane substantially perpendicular to a direction of travel of a gas stream though the passageway (see Figs. 9a, 9b, 10); a

first nozzle (21) to discharge a mixture into the passageway, the first nozzle located adjacent the edge of the second end of the first wing; and a second nozzle (21) to discharge a mixture into the passageway, the second nozzle located adjacent the edge of the second end of the wing (see Figs. 9a, 9b, 10; col. 2, lines 14-23). Regarding claim 59, the first and second wings are non-movably coupled to first and second opposing walls respectively within the duct along the same plane in the passageway (see lines 14-23). Regarding claim 60, the wings are cambered wings (see col. 2, lines 14-18; col. 3, lines 25-26, Fig. 3d). Regarding claim 61, first and second wings are non-movably coupled the inner surface of the duct at a lift generating angle of attack such that the first ends of the first and second wings are positioned substantially upstream of the direction of travel of the gas stream through the passageway and such that the second ends of the first and second wings are substantially down stream of the gas stream through the passageway (see Fig. 6). Regarding claims 62-64, third and fourth wings and nozzles according to claims 62-64 are disclosed (see Figs. 9a, 9b, 10; col. 2, lines 14-23). Regarding claim 65, the wings are cambered wings (see col. 2, lines 14-18; col. 3, lines 25-26, Fig. 3d). Claims 66 and 67 fail to further structurally limit the claimed apparatus, because the limitations of the claims solely relate to intended use of the claimed apparatus. As held in *In re Casey* supra., "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself". Regarding claim 68, Streiff ('533) discloses a system comprising a duct (7) with an inner surface defining a passage; a first wing (30) having a first end and a second end, the first wing non-movably coupled with in the passageway of the duct such that

the first end of the first wing extends into the passageway and is located along a plane within the passageway of the duct, the plane substantially perpendicular to a direction of travel of a gas stream though the passageway; a second wing (30) having a first end and a second end, the second wing non-movably coupled with in the passageway of the duct such that the first end of the second wing extends into the passageway and is located along the plane within the passageway of the duct, the plane substantially perpendicular to a direction of travel of a gas stream though the passageway; a first nozzle (21) to discharge a mixture into the passageway, the first nozzle located adjacent the edge of the second end of the first wing; and a second nozzle (21) to discharge a mixture into the passageway, the second nozzle located adjacent the edge of the second end of the wing (see Figs. 9a, 9b, 10; col. 2, lines 14-23).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Streiff ('533), as applied to claim 49 above, in view of Althaus et al. (US 5,518,311). Streiff ('533) does not disclose a second nozzle at the second end of the wing. Althaus ('311) teaches placement of two nozzle at two edges of a wing (see Figs. 8 and 14). It is considered that it would have been obvious to one of ordinary skill in the art to have provided the wing of Streiff ('533) with a second nozzle on a second end as taught by

Althaus ('311), because Althaus ('311) explains that such an arrangement improves mixing by extending vortices (see col. 6, lines 15-23). See also *In re Harza*, 124 USPQ 378 (CCPA 1960) and *St. Regis Paper Co. v. Bemis Co., Inc.* 193 USPQ 8, 11 (7th Cir. 1977) regarding the obviousness of duplicating parts.

Allowable Subject Matter

9. Claim 50 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim. The closest prior art, Streiff et al. (US 5,456,533) fails to disclose or fairly suggest a nozzle located at an edge of a downstream end a wing of and positioned to discharge in the downstream direction, is combination with the remaining limitations of the claim (including the base claim 49). While the intended direction of fluid flow is not considered to be limiting in an apparatus claim, it is considered that a positional relationship among the claimed structural elements is required by the claim, which is not disclosed or rendered obvious by the prior art.

Response to Arguments

10. Applicant argues regarding independent claim 49, that the prior art does not teach a particular arrangement of the first and second ends of the wing, and refers to a recitation of the ends of the wings relative to a "direction of travel of the gas stream". It is considered that Streiff ('533) still anticipates claim 49 as amended. Referring particularly to the embodiment of Figs. 9a and 9b, while in an intended operation discussed by Strieff ('533) flow is such that nozzle (21) is at an upstream end of the wing (30), one could use the structure such that flow is in the opposite direction.

11. Regarding independent claims 58 and 68, applicant argues that the prior art fails to teach a particular arrangement of ends of first and second wings. It is considered that Streiff ('533) still anticipates claim 58 and 68 as amended. For example, in Fig. 10 Streiff ('533) discloses ends of the wings positioned in a plane perpendicular to the direction of travel in the duct as claimed.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

David Sorkin

TONY G. SOOHOO
PRIMARY EXAMINER